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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/071,472 | 02/08/2002 | Attilio Rimoldi | 005826.P002 | 9971 |

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BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP
1279 OAKMEAD PARKWAY
SUNNYVALE, CA 94085-4040

| EXAMINER | |
|---|---|
| JONES, HUGH M | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2128 | |

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| 12/23/2008 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/071,472 | RIMOLDI ET AL. | |
| | Examiner | Art Unit | |
| | Hugh Jones | 2128 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *21 August 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *2/8/2002* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

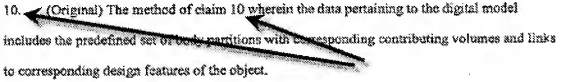
1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

**DETAILED ACTION**

1. Claims 1-30 of U. S. Application 10/071,472, filed 02/08/2002, are pending. Applicants are thanked for the amendment and arguments.

***Claim Objections***

2. Claim 10 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. This is a consequence of the fact that it depends from itself:




It is appears from the context that claim 10 depends from claim 9 and is so interpreted. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. **Claims 1-30 are rejected under 35 U.S.C. 101 as being directed to nonstatutory subject matter since the claims as a whole do not provide for a practical application, as evidenced by lack of physical transformation or a useful, tangible, and concrete result:**

**a)** Claims 1-14 are method claims, but are not proper process claims because they are not tied to another statutory class. The claims are also nonstatutory because they are directed to abstract ideas, namely solving a plurality of mathematical equations to generate mathematical representations for hypothetical objects. See Diamond v. Diehr, 450 U.S. 175 (1981):

> A mathematical formula does not suddenly become patentable subject matter simply by having the applicant acquiesce to limiting the reach of the patent for the formula to a particular technological use. A mathematical formula in the abstract is nonstatutory subject matter regardless of whether the patent is intended to cover all uses of the formula or only limited uses. Similarly, a mathematical formula does not become patentable subject matter merely by including in the claim for the formula token post-solution activity such as the type claimed in Flook. Id. at 192 n.14

And see Diehr, 450 U.S. at 191-92

> "insignificant post-solution activity will not transform an unpatentable principle into a patentable process. To hold otherwise would allow a competent draftsman to evade the recognized limitations on the type of subject matter eligible for patent protection."

**b)** Claim 30 is not statutory because the claim is broad enough to encompass nonstatutory embodiments, namely carrier waves. This can be seen from a study of page 27 of the specification:

> invention. The term "computer-readable medium" shall accordingly be taken to included, but not be limited to, solid-state memories, optical and magnetic disks, and carrier wave signals.

and the Amendment of 9/6/2007:

> A machine-readable medium includes any mechanism for storing or transmitting information in a form readable by a machine (e.g., a computer). For example, a machine-readable medium includes a machine readable storage medium (e.g., read only memory ("ROM"), random access memory ("RAM"); magnetic disk storage media; optical storage media; flash memory devices; etc.), a machine readable transmission medium (e.g., electrical optical, acoustical or other form of propagated signals (e.g., carrier waves, infrared signals, digital signals, etc.); etc.), etc.

Furthermore, claim 30 is not statutory because it is directed to abstract ideas.

See MPEP 2106 IV.C.3:

> **3. Determine Whether the Claimed Invention Preempts a 35 U.S.C. 101 Judicial Exception (Abstract Idea, Law of Nature, or Natural Phenomenon)**
>
> Even when a claim applies a mathematical formula, for example, as part of a seemingly patentable process, USPTO personnel must ensure that it does not in reality "seek[] patent protection for that formula in the abstract." *Diehr*, 450 U.S. at 191, 209 USPQ at 10. "Phenomena of nature, though just discovered, mental processes, abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work." *Benson*, 409 U.S. at 67, 175 USPQ at 675. One may not patent a process that comprises every "substantial practical application" of an abstract idea, because such a patent "in practical effect would be a patent on the [abstract idea] itself." …
>
> Thus, a claim that recites **a computer that solely calculates a mathematical formula (see Benson) or a computer disk that solely stores a mathematical formula is not directed to the type of subject matter eligible for patent protection.** If USPTO personnel determine that the claimed invention preempts a 35 U.S.C. 101 judicial exception, they

> must identify the abstraction, law of nature, or natural phenomenon and explain why the claim covers every substantial practical application thereof.

**c)** This reasoning (regarding abstract ideas) also applies to the apparatus claims.

5. To the extent that Applicants may argue that a practical application is claimed, it appears that Applicants seek in these claims to pre-empt use of the equations themselves and preempt every substantial application. As noted in MPEP 2106:

> Even when a claim applies a mathematical formula, for example, as part of a seemingly patentable process, USPTO personnel must ensure that it does not in reality seek[]patent protection for that formula in the abstract." Diehr, 450 U.S. at 191, 209 USPQ at 10. … One may not patent a process that comprises every "substantial practical application" of an abstract idea, because such a patent "in practical effect would be a patent on the [abstract idea] itself." *Benson*, 409 U.S. at 71-72, 175 USPQ at 676; *cf. Diehr*, 450 U.S. at 187, 209 USPQ at 8 ... "*To hold otherwise would allow a competent draftsman to evade the recognized limitations on the type of subject matter eligible for patent protection.*" *Diehr*, 450 U.S.

***Allowable Subject Matter***

6. Claims 1-30 are allowed over the prior art of record, and will be allowed once all other rejections/objections are traversed.

7. The following is a statement of reasons for the indication of allowable subject matter: The new features in the amended limitations, in view of the definitions in the specification as per Applicant's arguments on pp. 8-9 of the remarks of 8/21/2008, are novel and nonobvious over the prior art of record.

***Response to Arguments***

8. Applicant's arguments, filed 12/26/2007, have been carefully considered and are not persuasive.

9. Claims 1-30 are not statutory for the reasons provided in the updated 101 rejections.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hugh Jones whose telephone number is (571) 272-3781. The examiner can normally be reached on M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on (571) 272-2279. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hugh Jones/
Primary Examiner, Art Unit 2128